REMARKS

At the time of the Office Action, claims 1-20 were pending. In the Office Action, claims 1-7 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Fischer, U.S. Patent No. 6,946,817 in view of Yang, U.S. Patent No. 6,184,652. Claims 8-11 were rejected under 35 U.S.C. 103(a) as being unpatentable over Kondo, U.S. Patent No. 6,151,652 in view of Yang, and further in view of Fischer. Claims 12-13, 15-18 and 20 were rejected under 35 U.S.C. 103(a) as being unpatented by Fischer, in view of Hsin, U.S. Patent Application Publication 2003/0148663, and further in view of Jeansonne, U.S. Patent Application Publication 2004/0203275. Claim 14 was rejected under 35 U.S.C. 103(a) as being unpatentable over Fischer in view of Hsin and Jeansonne, and further in view of Odaohhara, U.S. Patent No. 6,424,123. Claim 19 was rejected under 35 U.S.C. 103(a) as being unpatentable over Fischer in view of Hsin and Jeansonne, and further in view of Hsu, U.S. Patent No. 6,798,173.

The use of reference characters in describing the presently claimed elements below is for illustrative and exemplary purposes only, and is not to be construed as limiting absent an express indication for doing so.

35 U.S.C. §103(a) Obviousness of Claims 1–7 by Fischer in View of Yang

1. The combination of Fischer and Yang does not teach or suggest the elements of claim 1. Fischer does not teach or suggest the two controllers as claimed, and Yang does not teach a battery selection signal.

Applicants have amended claim 1 to provide clarification and separation between the "controller," which has been amended to be designated as a "main controller" of the device, and the "control portion," which has been amended to be designated as a "charger control portion." This renaming does not affect the scope of the claim but clarifies the respective elements as discussed in the claim.

In the Office Action, on pp. 4–5, the Examiner rejected independent claim 1 as being obvious over the combination of Fischer and Yang.

The Examiner identified how he viewed each of the claimed elements as being shown in the prior art.

With regard to Fischer, the Examiner stated:

> Regarding claim 1, Fischer discloses an apparatus for charging a battery of a portable electronic device (mobile communication device) that includes a controller controlling operation of the portable electronic device, the portable electronic device is being connected to a computer by USB port, the apparatus transferring power from the computer through the USB port, the apparatus comprising:
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> a control portion (microprocessor 20, Fig 1) electrically connected (Fig 1 shown the microprocessor and the USB controller are connected electrically via a line which gave implicit the USB controller 14 and the processing device 20 are electrically connect electronic components) with the controller (USB controller 14, Fig 1), the control portion (20) generating charge control signals (signals 212 and 214) according to a battery selection signal that is output from the controller (col. 6, lines 13-19);
>
> a charging portion (charging subsystem 16, Fig 1) electrically connected with the control portion (20) (col. 6, line 60 to col. 7, line 23); and
>
> a transistor (transistor 404, Fig 5) externally connected to the charging portion (charge controller 402, Fig 5), the transistor (404) and the charging portion (402) cooperating to charge the battery according to the charge control signals from the control portion (the charge controller 402 regulates the amount of current passing through the current-carrying terminals of the transistor 404 in order to supply a constant charge current to the rechargeable battery) (col. 9, lines 28-39).

Based on the elements of Fischer that the Examiner is equating to claimed elements, the following table can be constructed:

Claim element	**Exemplified in present spec.**	**Examiner indication of disclosure in Fischer**
control portion (now "charger control portion")	75 Fig. 3	microprocessor 20, Fig. 1
controller (now "main controller")	78	USB controller 14
charge control signals	(Fig. 4, spec. 0033, 0036)	signals 212 and 214
charging portion	74	charging subsystem 16

		? charge controller 402
transistor	TR, Fig. 5	transistor 404

The Examiner has somewhat peculiarly equated the USB controller 14 in Fischer with the claimed "controller," which, per the claim 1 preamble is, "controlling operation of the portable electronic device," and has now been designated, for the sake of clarity, as the "main controller." If the Examiner were considering the functional characteristics of the elements, then the claimed "main" controller would more likely be equated to the microprocessor 20 of Fischer, as opposed to Fischer's USB controller 14, since this is the element in Fischer that controls overall operation of the portable electronic device.

However, if the Examiner equated the claimed "controller" with the microprocessor 20 of Fischer, then he would not be able to show how Fischer discloses the relationship of the claimed controller with other claimed elements and with the claimed relationships. Namely, he would be unable to show a charger control portion electrically connected with the main controller, a charging portion electrically connected with the charger control portion, and a transistor externally connected to the charging portion of the transistor.

The Examiner is permitted to give claim terms their broadest reasonable interpretation, and although Applicants find peculiar an interpretation that the USB controller 14 of Fischer reads on the claimed "(main) controller" that, according to the preamble is "controlling operation of the portable electronic device," Applicants do not (while not conceding the point) argue here that such a construction is unreasonably broad.

Instead, Applicants argue that *if* the Examiner chooses to take this as his interpretation of the disclosure of the "controller," as disclosed by Fischer, then this interpretation would require that the USB controller 14 of Fischer also be the element that outputs the claimed battery selection signal (for which the Examiner applied the Yang reference as disclosing) to the main controller/microprocessor 20 in Fischer.

This would not be obvious, and furthermore, would not make sense. The USB controller 14 in Fischer is described as an element that:

> monitors the USB data lines 26 and controls data communication between the processing device 20 and the USB host or hub 22.

Since the USB controller 14 in Fischer is not associated with battery charging operations, one of ordinary skill in the art would certainly not consider this element as rationally providing a "battery selection signal" to the main controller/microprocessor 20 in Fischer. Stated differently, there would be no motivation for one of ordinary skill in the art to combine the teaching of Yang with that of Fischer for modifying Fischer's teaching of the USB controller 14 to provide a battery selection signal.

Advantageously, the embodiment of claim 1, as it was previously claimed, but particularly as amended with clarifying amendments, separates the control of the charging operations by providing a separate control portion 75 (or "charging controller," for clarity here) from the main controller of the electronic device. The only signal required from the main controller is the battery selection signal. The main controller provides this battery selection signal at its output to an input of the charging controller, the charging controller then providing the charge control signals to the charging portion. This provides a separation of functionality that is advantageous over the teaching of the prior art.

In addition, Yang fails to teach or suggest an actual battery selection signal that is provided to a particular component or entity of the device. Yang states, in relevant part (2:39–46):

> The present Mobile phone battery charging seat is designed to detect automatically the type of Mobile phone battery and convert the voltage from the USB interface into desired voltage for charging the Mobile phone battery by means of converting IC in the converter thus the user dose [sic] not need to purchase different kinds of the battery charging seat as to the different material made f [sic] the batteries.

Yang is silent about the mechanism used to communicated a detected battery type to any component of its charging system and thus does not disclose any form of a battery selection signal that is communicated. Thus, further to the above arguments, one of ordinary skill in the art would not turn to the teaching of Yang as providing a disclosure related to communicating a battery selection signal that could be applied to the teaching of Fischer when Yang is completely silent on providing any form of a battery selection signal. As noted in MPEP §2143.03, all

words in a claim must be considered in judging the patentability of that claim against the prior art, and here the Examiner has ignored the language associated with the battery selection *signal* that is required by the claim.

For these reasons, Applicants assert that claim 1 is not obvious in view of the teaching of Fischer and Yang.

Claims 2–7 are also not obviated by the combination of Fischer and Yang for reasons argued above with respect to claim 1 and by virtue of their dependency from claim 1.

However, Applicants further argue the Examiner's conclusion of obviousness with regard to dependent claims 4 –7.

2. The combination of Fischer and Yang does not teach or suggest the elements of claim 4. Fischer does not teach or suggest the charge control signals of the control portion that comprises a charge voltage control signal and a charge current control signal, but only discloses control of the current and monitoring of the voltage.

In the Office Action, on p. 6, the Examiner rejected claim 4 as being obvious over the combination of Fischer and Yang. The Examiner stated:

> Regarding claim 4, Fischer discloses the charge control signals of the control portion (the control signal from charge current controller 408) comprise a charge voltage control signal (monitor the voltage level) and a charge current control signal (control the amount of current), which are generated based on the detection of a charge current and a charge voltage from the charging portion (charge current controller 408, Fig 5), to control the charge current and the charge voltage (battery voltage curve 610 and battery current curve 620, Fig 7) (col. 7, lines 55-67).

Applicants note that the language used by the Examiner is not the language that is found in claim 4. Claim 4 requires that the charge control signal comprise two components: 1) a charge voltage control signal, and 2) a charge current control signal. Although the disclosure of Fischer, would appear to have some form of a charge control signal that is used for controlling the charge current controller, as indicated by the Examiner, the disclosure of Fischer is silent as to any form of a charge voltage control signal.

Fischer also, as indicated by the Examiner, discloses *monitoring* the voltage level. However, one of ordinary skill in the art would not consider the disclosure of Fischer disclosing a *monitoring* of the voltage to *control* the current as being the same as *monitoring and controlling both the voltage and the current*. Simply put, monitoring is not controlling.

As noted above, MPEP §2143.03 states all words in a claim must be considered in judging the patentability of that claim against the prior art, and here the Examiner has ignored the language associated with *controlling* the charge voltage.

3. The combination of Fischer and Yang does not teach or suggest the elements of claim 5. Fischer does not teach or suggest an apparatus further comprising a USB controller, if the Examiner equates the elements disclosed by Fischer as indicated in claim 1.

In the Office Action, on p. 5, the Examiner rejected claim 5 as being obvious over the combination of Fischer and Yang. The Examiner stated:

> Regarding claim 5, Fischer discloses a USB controller for controlling bidirectional data transmission (request capability 1320 and report capability 1340, Fig 12B) between the computer and the portable electronic device (the transmission of request and report data between the mobile device and the USB host, col. 14, lines 26-39 and Figs 12A and 12B).

Although Fischer does appear to disclose a USB controller (Figure 1, element 14), the Examiner has already equated Fischer's USB controller 14 as reading on the claimed main controller with regard to claim1:

> ...and the processing device 20 are electrically connect[ed] electronic components) with the controller (USB controller 14, Fig. 1).

Since claim 5 indicates that it comprises the elements of claim 1 and *further* comprises a USB controller, then the "controller" (now "main controller") specified in claim 1 could not be read on by Fischer's USB controller, as was done by the Examiner with regard to claim 1. Or, alternately, Fischer would have to disclose two separate USB controllers that each meet the claimed limitations (which it does not do). In any case, one of ordinary skill in the art would not find that the combination of references teach what the Examiner indicates under either analysis.

4. Fischer does not disclose any aspect related to a battery selection signal.

In the Office Action, on p. 5, the Examiner rejected claims 6 and 7 as being obvious over the combination of Fischer and Yang. The Examiner stated:

> Regarding claim 6, Fischer discloses the battery selection signal is input by a user (a mobile device user, see col. 2, line 58 to col. 3, line 4).
>
> Regarding claim 7, Fischer discloses the battery selection signal is input by a battery recognition apparatus (keyboard 34 or auxiliary I/O 40, Fig 1) (col. 3, lines 44-61 and Fig 1).

On p. 5 of the Office Action, the Examiner had previously stated that Fischer does not disclose the battery selection signal distinguishing the battery from a plurality of batteries. Applicants assert that that Fischer does not disclose a battery selection signal at all.

Therefore, Applicants cannot see how Fischer *could* disclose such a signal being either input by a user or input by a battery recognition apparatus and . The section of Fischer discussed by the Examiner with regard to claim 6 simply discusses the generic setting of preferences by a user, and the second of Fischer discussed by the Examiner with regard to claim 7 simply discusses generic communications.

Based on the arguments presented above, Applicants respectfully assert that claims 1–7 are not obvious based on the combination of Fischer and Yang, and respectfully request that the Examiner withdraw this rejection from the application.

35 U.S.C. §103(a) OBVIOUSNESS OF CLAIMS 8–11 BY KONDO IN VIEW OF YANG AND FISCHER

5. The combination of Kondo, Yang, and Fischer does not teach or suggest a digital camera controller that generates a battery selection signal that identifies the battery, as claimed in claim 8.

In the Office Action, on pp. 6–8, the Examiner rejected independent claim 8 as being obvious over the combination of Kondo, Yang, and Fischer.

The Examiner stated, on p. 7:

> Regarding claim 8, Kondo discloses a digital camera (digital camera 1, Fig 1) connected to a computer (a computer 3, Fig 1) by USB to charge a battery by receiving power from the computer through USB (USB interface cable 4, Fig 1), the digital camera comprising:

- a USB charger including a USB controller (power supply control circuit 14, Fig 1) to transmit and receive data through a USB port of the computer (3), a control portion (CPU 12, Fig 1) to generate charge control signals corresponding to battery selection signal, a charging portion (charging circuit 143, Fig 8) electrically connected with the control portion (12) (col. 4, lines 1-18 and col. 6, lines 21-28);
- a digital camera controller (CPU 12, Fig 1) in communication with the battery recognition apparatus; and
- a power converting portion (constant voltage circuit 142, Fig 8) to receive power from the battery that is charged by the charger and generate and output power having a plurality of voltage levels (col. 5, lines 51-62).

Kondo does not explicitly disclose a battery recognition apparatus neither does Kondo disclose a transistor externally connected to the charging portion.

Applicants respectfully disagree with this characterization of the teaching of Kondo. Kondo fails to teach or suggest a battery selection signal, nor would there be any motivation to provide such a battery selection signal in Kondo, given its lack of teaching regarding any structure related to identification of the battery or any similar structure. In the event that this rejection is maintained, Applicants respectfully request that the Examiner expressly point out what element disclosed by Kondo is being read on the claimed battery selection signal.

However, even if *arguendo* Kondo does disclose some form of a battery selection signal, where the selection is whether the battery gets charged or not, the claim language requires that this battery selection signal identifies the battery, and that the charge control signals are generated corresponding to such a battery selection signal.

The Examiner notes that Kondo does not explicitly disclose a battery recognition apparatus nor the transistor externally connected to the charging portion, but then supplies the Yang reference as providing the battery selection signal that identifies the battery and distinguishes it from a plurality of batteries. However, this battery selection signal would then be inconsistent with whatever the Examiner is equating with the battery selection signal in the teaching of Kondo, and one of ordinary skill in the art would not be motivated to use the teaching of Yang related to its teaching of providing a battery selection signal to identify the

battery and control the charging apparatus when considering whatever form of battery selection signal is taught by Kondo that has no teaching whatsoever related to the handling of a particular identified battery.

Therefore, it would make no sense for one of ordinary skill in the art to combine the teaching of Kondo and Yang in the manner described by the Examiner. As noted in a previous response to office action, in an obviousness rejection, it is impermissible "to pick and choose from any one reference only so much of it as will support a given position, to the exclusion of other parts necessary to the full appreciation of what such reference fairly suggests to one of ordinary skill in the art." *In re Wesslau,* 353 F.2d 238, 241 (CCPA 1965).

Applicants note that the Fischer reference was applied by the Examiner as disclosing the transistor externally connected to the charging portion. Fischer does not provide a disclosure for resolving the deficiencies in the teachings of Kondo and Yang.

6. The combination of Kondo, Yang, and Fischer does not teach or suggest a digital camera having a power converting portion that generates and outputs power having a plurality of voltage levels, as claimed in claim 8.

In the Office Action, on p. 7, the Examiner stated:

> Regarding claim 8, Kondo discloses a digital camera…comprising:
>
> a power converting portion (constant voltage circuit 142, Fig 8) to receive power from the battery that is charged by the charger and generate and output power having a plurality of voltage levels (col. 5, lines 51-62).

Applicants respectfully disagree with this characterization of the teaching of Kondo. Kondo states, at the relevant cited portion:

> Reference numeral 142 denotes a constant voltage circuit for converting power selected by the switching circuit 141 (power supplied from the secondary battery 13 or power supplied via the I/O card 2) into a given voltage, and applies the voltage as power to the camera circuits 11 (including the CPU and power supply unit) and I/O card 2.

The actual designation of element 142 as being a *constant* voltage source is contrary to the claimed plurality of power levels. Furthermore, the language disclosed in Kondo ("a *given*

voltage" and "*the* voltage") strongly that suggests that it is referring to a single voltage and does not teach or suggest the claimed plurality of voltages.

7. The combination of Kondo, Yang, and Fischer does not teach or suggest charge control signals comprising a charge voltage control signal and a charge current control signal, as claimed in claim 11.

In the Office Action, on p. 9, the Examiner rejected claim 11 as being obvious over the combination of Kondo, Yang, and Fischer using arguments that parallel those provided for claim 4. Without repeating the rejection and the basis for distinguishing the presently claimed claim 11, Applicants rely upon the arguments made with respect to claim 4 and further note that the addition of Kondo to the combination does not resolve the shortcomings in the teaching of Fischer combined with Yang.

Based on the arguments presented above, Applicants respectfully assert that claims 8–11 are not obvious based on the combination of Fischer and Yang, and respectfully request that the Examiner withdraw this rejection from the application.

35 U.S.C. §103(a) OBVIOUSNESS OF CLAIMS 12, 13, 15–18, AND 20 BY FISCHER IN VIEW OF HSIN AND JEANSONNE

8. The combination of Fischer, Hsin, and Jeansonne does not teach or suggest a USB cable comprising a second connector containing a charging portion that communicates with a device controller.

In the Office Action, on pp. 9–11, the Examiner rejected claim 12 as being obvious over the combination of Fischer, Hsin, and Jeansonne. In relevant part, the Examiner stated (p. 10):

> Fischer does not explicitly disclose a USB battery charger enclosed within the first connector neither does Fischer disclose at least two wires electrically connecting the first and second connectors.
>
> Hsin discloses a USB cable for transferring power from a USB receptacle to a portable electronic device (portable device such as a cell phone), the USB cable comprising a USB battery charger enclosed within the connector (a multipurpose USB connector 10, Fig. 2) ([0015], Hsin).

> Jeansonne discloses a USB cable (16, Fig 1) at least two wires (a +5 volt wire 30 and a ground wire 32, Fig 2) electrically connecting the first (a first connector end 24, Fig 1) and second connectors (a second connector end 26, Fig 1) ([0016], Jeansonne).

However, this combination of references fails to disclose the claimed interrelationships that are present in claim 12. There is no disclosure from which a teaching of the "charging portion that communicates with the device controller for receiving at least one signal relative to the battery, the charging portion adjusting power… relative to the at least one signal…" There is not anything that suggests why one of ordinary skill in the art would place an entity that communicates with the device controller within the charger enclosed within the second connector of the cable. In fact, the disclosure of Hsin contains a significant absence of any circuit element that would appear to provide communication with a device controller. All that is disclosed in Hsin is the output port 14, discrete electrical components 21, light source 22, and switch. This would leave the mechanisms for communicating with the device controller presumably in the PC unit (see Hsin, Figure 4) as the only place that they could logically reside, and not in the USB charger in the cable connector.

Jeansonne (cited by the Examiner for other reasons) contains a similar lack of disclosure for this claimed feature.

For this reason, claim 12, and the claims that depend therefrom by virtue of their dependence, are not obvious over the combined teachings of Fischer, Hsin, and Jeansonne. Applicants respectfully request that this rejection be withdrawn from the application.

35 U.S.C. §103(a) OBVIOUSNESS OF CLAIMS 14 AND 17 OVER FISCHER IN VIEW OF SOME COMBINATION OF HSIN, JEANSONNE, ODOAHHARA, AND HSU

9. Applicants rely upon the above arguments with respect to independent claim 12, and assert that none of the additional references supplants the deficiencies identified above with respect to the Fischer, Hsin, & Jeansonne.

In the Office Action, on pp. 12–13, the Examiner supplemented the combination of Fischer, Hsin, and Jeansonne with the Odoahhara and Hsu references, the latter disclosing elements relevant to claims 14 and 17 respectively.

Without addressing the specifics of the additional references on the merits, Applicants rely upon the above arguments with respect to claim 12 and assert that the disclosures of each of these additional references, alone or in combination, does not serve to solve the deficiencies of the combination of Fischer, Hsin, and Jeansonne. The Examiner has cited these references for purposes related to the specifics of the dependent claims.

For these reasons, Applicants assert that the claim language clearly distinguishes over the prior art, and respectfully request that the Examiner withdraw the §103 rejections from the present application.

CONCLUSION

The application is considered in good and proper form for allowance, and the Examiner is respectfully requested to pass this application to issue. If, in the opinion of the Examiner, a telephone conference would expedite the prosecution of the subject application, the Examiner is invited to call the undersigned attorney.

Respectfully submitted,

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Date: August 28, 2008

CH01/ 25177512.1